

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Upon entry of this Amendment, claims 1-15 are pending in the application. In response to the Office Action (Paper No. 6), Applicant respectfully submits that the pending claims define patentable subject matter.

I. Preliminary Matters

The Examiner did not indicate whether the drawings filed with the application are accepted. Applicant requests that the Examiner indicate acceptance of the drawing in the next action.

II. Prior Art Rejections

Claims 1-7, 10-13 and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Lyles et al. (U.S. Patent No. 5,917,822; hereafter "Lyles"). Claims 8, 9 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lyles in view of Ding et al. (U.S. Patent No. 5,699,361; hereafter "Ding"). Applicant respectfully traverses the prior art rejections.

A. Disclosure of Lyles

Lyles is directed to a method for providing integrated packet services over a shared-media network of a cable television system. The method, executed by or in a head-end controller (bandwidth allocation unit), allocates bandwidth transmission slots, converting requests for bandwidth into virtual scheduling times for granting access to the shared media. The method can

use a weighted fair queuing algorithm or a virtual clock algorithm to generate a sequence of upstream slot/transmission assignment grants. The method supports multiple quality of service (QoS) classes via mechanisms which give highest priority to the service class with the most stringent QoS requirements.

As shown in Figure 4, a hybrid fiber-coax (HFC) network includes a head-end controller (bandwidth allocation unit) 305 communicably linked to a plurality of terminal equipment units 315 (network access units 210). In response to receiving a transmission authorization request 405 from the terminal equipment unit 315, the bandwidth allocation unit 305 generates a virtual scheduling time for the requested transmission, based on (1) the time of arrival of the transmission authorization request 405, (2) a class of service associated with the transmission authorization request 405, and (3) a virtual scheduling time of a previous transmission authorization request 405 made on behalf of the terminal equipment unit 315. The bandwidth allocation unit 305 adds to a transmission scheduling list an entry corresponding to the transmission authorization request 405 and sorts the transmission scheduling list in accordance with a lexicographic sort. The bandwidth allocation unit 305 then sends a transmission authorization signal 410 to the terminal equipment unit 315 in accordance with the position of the virtual scheduling time in the transmission scheduling list.

B. Disclosure of Ding

Ding is discloses a multimedia communication network and process for communicating thereon wherein communication channels are formulated using a two step process. In a first step, channel types and fixed attributes thereof are defined. When needed, one or more channels of the

predefined types are subsequently allocated in a second step wherein user-definable parameters are specified. The user-definable parameters and fixed attributes of each allocated channel control the scheduling of transmission and receipt of information on each channel.

C. Analysis

Applicant respectfully submits that the claimed invention would not have been anticipated by or rendered obvious in view of Lyles, alone or combined with Ding.

The Examiner generally alleges that Lyles discloses all of the features of independent claims 1 and 7 via the terminal equipment unit (which the Examiner asserts corresponds to the claimed terminal) and the bandwidth allocation unit (which the Examiner asserts corresponds to the claimed management unit). However, Applicant respectfully submits that it is quite clear that Lyles does not teach or suggest a “management unit [which] includes means for allocating communication resources to each terminal according to the total number of cells or packets waiting in each terminal and a weighting coefficient allocated to each terminal ...” as recited in independent claim 1, and “means for transmitting to a management unit responsible for allocating resources to a plurality of terminals a signal representing the total number of cells or packets awaiting transmission”, as recited in independent claim 7.

Although the Examiner cites numerous sections of Lyles in support of the rejection, nowhere does Lyle teach or suggest these features of the claimed invention. Instead, Lyle simply discloses (1) transmitting a transmission authorization request signal from the terminal equipment unit to the bandwidth allocation unit (head-end controller), wherein the transmission authorization request signal is associated with a requested transmission and indicates a class of

service associated with the terminal equipment unit, and (2) generating a virtual scheduling time at the bandwidth allocation unit based on the time of arrival of the transmission authorization request, the class of service associated with the transmission authorization request, and a virtual scheduling time of a previous transmission authorization request from the terminal equipment unit.

The Examiner cites Ding (col. 18, line 66 - col. 19, line 18) for transmitting resource allocation signals which indicate the number of packets to be transmitted for each transmit channel. However, nowhere does Ding teach or suggest transmitting a signal representing the total number of cells or packets awaiting transmission from the terminal to a management unit responsible for allocating resources to a plurality of terminals, or allocating communication resources to each terminal at the management unit according to the total number of cells or packets waiting in each terminal, as required by the claims. Further, Applicant respectfully submits that one of ordinary skill in the art would not have been motivated to modify the network/method of Lyles based on the teachings of Ding to produce the claimed invention. In particular, Ding is directed to allocating channels in a host computer (i.e., node) as needed by application programs running on a processor of the host computer. Accordingly, the resource allocation signal of Ding is transmitted by an application to a (streamer) process running on the host computer. On the other hand, Lyles teaches transmitting a transmission authorization request signal from a terminal unit to a head-end unit. Thus, the teachings of Ding relied on by the Examiner are not related or relevant to the system/method of Lyles.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Patent Application No. 09/808,025

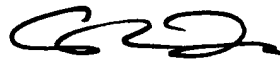
Accordingly, Applicant respectfully submits that independent claims 1 and 7, as well as dependent claims 2-6 and 8-15, should be allowable because the cited references do not teach or suggest all of the features of the claimed invention.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Christopher R. Lipp
Registration No. 41,157

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: June 8, 2004

Attorney Docket No.: Q63534